We claim :

1. A coronary probe for implantation in a vein of the coronary network for the stimulation of a left cavity of the heart, comprising:

a flexible hollow sheath having an internal conductor and a distal end;

an intermediate element, positioned at the distal end of the sheath, having a cylindrical body bearing a retention structure and a distal end;

a probe-head, positioned at the distal end of the intermediate element, having a protuberance and at least one stimulation electrode that is electrically conducting and connected to said internal conductor, said stimulation electrode being positioned on said probe-head to come in contact with said vein;

wherein said retention structure further comprises at least one relief formed on the cylindrical body, said relief having an overall circular contour including a second diameter, said second diameter being greater than said first diameter.

2. The probe of claim 1, wherein said overall circular contour further comprises an eccentric contour relative to the first axis of the cylindrical body.

3. The probe of claim 2, wherein the overall circular contour comprises a second axis, the second axis being offset from said first axis by a distance x, x being selected from between 15 and 25 % of the first diameter of the cylindrical body.

4. The probe of claim 1, wherein the second diameter of the overall circular contour is comprised of between 1.5 and 2 times the first diameter of the cylindrical body.

5. The probe of claim 1, wherein said at least one relief further comprises a plurality of annular reliefs.

6. The probe of claim 1, wherein said at least one relief is eccentric relative to said cylindrical body.

7. The probe of claim 1, wherein said at least one relief further comprises a helicoid relief having a thread extending around the cylindrical body.

8. The probe of claim 7, wherein the thread extends in a nonjointed way around the cylindrical body.

9. The probe of claim 7, wherein the thread extends around the cylindrical body over a number turns selected from between two to three turns.

10. The probe of claim 7, wherein the helicoid relief further comprises a first end and a second end and a nominal radius of the thread, said nominal radius being a variable radius that increases and then decreases between said first and second ends.

11. The probe of claim 7, wherein the helicoid relief further comprises thread having a constant distance between the thread turns.

12. The probe of claim 6, wherein the thread further comprises a thread having a round profile.